

A NEW SPECIES OF *LYGISAURUS* DE VIS (REPTILIA: SCINCIDAE) FROM
MIDEASTERN QUEENSLAND

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Lygisaurus zuma sp.nov. is from open forests and riparian habitats of the Mackay district, mideastern Queensland. It is distinguished from its congeners by the following combination of characters: midbody scale count 23-24, supraciliaries usually 6, ear lobules flat and low, and palpebral disc large. Faecal analysis shows that this species feeds on small arthropods. In captivity, male *L. zuma* display territorial behaviour and both sexes give a brief, head-bobbing display when establishing themselves in a sunning position. Male *L. zuma* develop a red breeding flush on their throats and tails, which reaches full intensity by late October. A captive female produced two soft-shelled, oval shaped eggs, in mid-November.

□ *Lygisaurus zuma*, Scincidae, new species, open forest, Queensland.

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Ingram and Covacevich (1988) resurrected the genus *Lygisaurus* from the synonymy of *Carlia* to accommodate the small, brown litter-dwelling skinks, which had formed a discrete unit within *Carlia*. They transferred four species (*L. foliorum*, *L. aeratus*, *L. laevis* and *L. macfarlandi*) to *Lygisaurus* and described three new species (*L. rococo*, *L. sesbrauna* and *L. tanneri*) from north-eastern Queensland. In addition, *Menetia timlowi* (Ingram, 1977) was reallocated to the genus *Ly-*

gisaurus. Subsequently, Greer (1991) changed the generic diagnoses of *Lygisaurus* and *Menetia* and concluded that *L. timlowi* was more closely related to *Menetia* than to *Lygisaurus*. He reasigned it accordingly.

During recent field surveys north of Mackay, mideastern Queensland, a new *Lygisaurus* closely resembling *L. tanneri* was collected. The new species conforms to the generic diagnoses of Ingram and Covacevich (1988) and Greer (1991). On external features alone, it is readily referable to the genus *Lygisaurus* by the presence of ear lobules, which *Menetia* lacks (Greer, 1991). Further, the number of paravertebral scales in the new species (44-48) is within the range of *Lygisaurus* (39-50), whereas *Menetia* has 52-66 (Greer, 1991). The discovery of a new species of *Lygisaurus*, following a recent revision of this genus, emphasises the importance of field surveys in areas that have been previously overlooked. With the exception of the Eungella rainforest block, the forests of the Mackay area have been largely ignored because researchers have focused their attention on forests further north.

Body measurements and morphological characters follow Ingram and Covacevich (1988). SV = snout-vent length; HW = head width; TL = tail length; HL = hindlimb length. The number of supraciliaries, supraoculars, ear lobules, supralabials and subdigital lamellae have been recorded from both sides of the body. The subdigital lamellae count includes the most distal scale. In addition, the numbers of enlarged nuchal scales and paravertebrals have also been counted

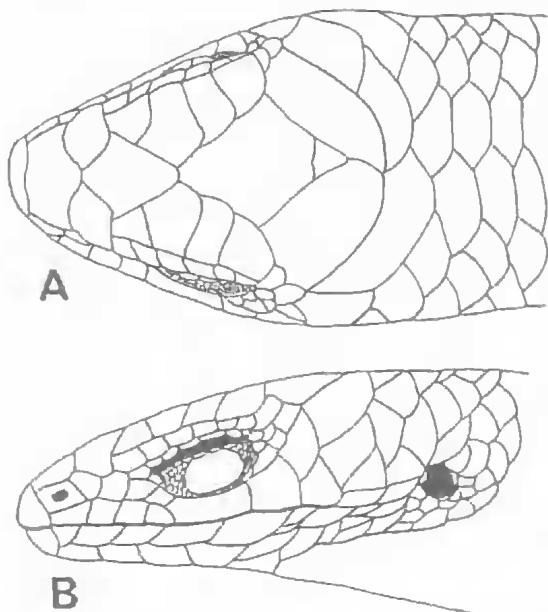


FIG. 1. *Lygisaurus zuma* (J55760). A. Dorsal view of head. B. Lateral view of head.



FIG. 2. *Lygisaurus zuma* (J56874) Boulder Ck, MEQ (S. Wilson).

(sensu Greer, 1991). All specimens examined are in the Queensland Museum.

***Lygisaurus zuma* sp.nov.**
(Figs 1-4)

MATERIAL EXAMINED

HOLOTYPE: J55760 female, Boulder Ck, via Mt Charlton, MEQ (21°01'S, 148°43'E), collected by P.J. & K.L.D. Couper on 21-23 July 1992.

PARATYPES: J53397, J55761-7, J56874-6, J56883 Boulder Ck, via Mt Charlton, MEQ; J56278, J56280 small knoll immediately WNW of Mt Ossa township, E of where Carey Ck crosses Bruce Highway, MEQ (20°55'S, 148°48'E); J56279 small knoll just east of the Geeberga-Buthurra Rd, 6.7km from where the road meets the Bruce Highway opposite Buthurra, MEQ (21°01'S, 148°48'E); J56765 Neilson Ck, at the base of Mt Blackwood, MEQ (21°01'S, 148°58'E); J56786 proposed Teemburra Ck Dam, near Pinnacle, N of Mackay, MEQ (21°13'S, 148°39'E).

DIAGNOSIS

A medium sized (maximum SV 34mm) *Lygisaurus* (Fig. 2). *L. zuma* sp. nov. has a movable lower eyelid, a character it shares with *L. aereatus*,

L. laevis, *L. macfarlani*, *L. rococo*, *L. sesbrauna* and *L. tanneri*. *L. zuma* sp. nov. is distinguished from *L. rococo* by midbody scale count (23-24 vs 27-30); from *L. tanneri* by the number of supraciliaries (usually 6 vs usually 7); from *L. aereatus*, *L. laevis* and *L. sesbrauna* by the nature of the ear lobules (flat and low vs sharp); from *L. macfarlani* by the size of the palpebral disc (large, occupying more than half of the lower eyelid vs small, occupying less than half of the lower eyelid), a character which further distinguishes it from *L. laevis*, *L. sesbrauna* and *L. tanneri*.

DISTRIBUTION

The Mackay district, midcastern Queensland (Fig. 3).

DESCRIPTION

SV: 23-34 (N = 18, mean 30.0). Proportions, (% SV): HW, 12-16 (N = 18, mean 14.3); TL, 130-178 (N = 6, mean 151.4); HL, 28-40 (N = 18, mean 35.7). Supraciliaries 6, rarely 5 or 7 (N = 36, mean 6.0). Palpebral disc large, occupying more than half of the lower eyelid. Lower eyelid movable. Ear aperture much smaller than palpebral disc; varying in shape from round to almost



FIG. 3 Distribution of *Lygisaurus zuma*.

horizontal, with low flat lobules around the margin. Supraoculars 4, rarely 3 ($N = 36$, mean 3.9). Supralabials 7 ($N = 36$), with the fifth under the eye. Three scales between the second presubocular and the nasal scale. Enlarged nuchal scales 2-3 ($N = 18$, mean 2.1), with two contacting the parietal shields. Midbody scale rows 23-24 ($N = 17$, mean 23.7). Number of scales from chin to vent 50-58 ($N = 17$, mean 53.5). Number of paravertebral scales 44-48 ($N = 17$, mean 46.6). Number of lamellae under fourth toe 19-23 ($N = 34$, mean 21.3).

Dorsal colour pattern iridescent grey-brown with longitudinal rows of small black flecks that become more concentrated on the flanks, forming a darker lateral zone. Ventral surface silvery white with a dark edging to the belly scales; chin immaculate. Head coppery with scattered dark blotches. In life, eye pale green with a black pupil. Breeding males have red tails and throats.

ETYMOLOGY

The name is derived from Montezuma II, the last Aztec emperor, who was a sun-worshipper. The name alludes to the lizard's basking habits. The epithet is to be treated as a noun in apposition.

HABITAT

L. zuma lives in the leaf-litter of open forests and associated riparian habitats. J53397, 55760-

55767, 56874-56876, 56883 were collected from a mixed, eucalypt-dominated woodland, predominantly comprised of the following species; *Eucalyptus dolichocarpa*, *E. intermedia*, *Pandanus tectorius*, *Ervatamia orientalis*, *Flindersia schottiana*, *Planchonia careya*, *Acacia flavescens*, *Randia fitzalanii*, *Mallotus philippensis*, *Glochidion sumatranum* and *Lophostemon suaveolens* (Fig. 4). J56279 was collected from a stand of *L. suaveolens* with scattered *Eucalyptus platyphylla* and young *M. philippensis*. J56280 is from an *E. intermedia* dominated forest with an understorey of *Lophostemon confertus*. J56765 was collected from a creek-bed containing riverine vegetation, immediately adjacent to a eucalypt dominated woodland. J56786 was taken from an open riparian forest dominated by *Casuarina* sp. J56278 was found in dense leaf litter in a dry gully in a patch of rainforest.

The penetration of open forest species into rainforest is discussed by Covacevich and McDonald (1991). The occurrence of *L. zuma* in rainforest may be an example of this, probably the result of severe drought. Specimen J56278 was collected during September 1992, one of the driest periods on record for the Mackay area. Field surveys conducted in October 1991 failed to find this species in rainforest, despite a total 18 man-days spent in rainforests around Mt Ossa and Mt Charlton.

HABITS

Like all *Lygisaurus*, *L. zuma* is a small, ground-dwelling diurnal skink. Individuals seen at Boulder Ck during July 1992 were actively foraging through the litter layer from mid-morning to early afternoon. All observed activity was confined to patches of sunlight. Ground temperature in these sun patches ranged from 24-28°C.

An examination of four faecal samples showed that *L. zuma* feeds on small arthropods. One of the samples contained two ground spiders of the families Lycosidae and Pisauridae and another two of the samples each contained a single planthopper (Hemiptera: Fulgoroidea). The fourth sample, while containing no prey items, consisted of numerous scales presumably ingested by the skink while sloughing. Specimens kept in captivity readily eat termites, actively avoiding the soldiers and preferring the larger, more succulent workers.

Male *L. zuma* observed at Boulder Ck during July 1992 had not yet developed their full breeding colours. While the lower labials displayed a well developed, red flush, the scales of the throat



FIG. 4. Open forest habitat of *Lygisaurus zuma*.

remained white with only a hint of orange appearing around the margins. Breeding colours develop to full intensity by late October, as was the case with J53397 and J56765, and begin to fade by early December (captive males J56874 and J56876). In captivity, territorial behaviour was evident in males well before breeding colours had fully developed. The larger of two males sharing an enclosure with two females would actively chase the other male whenever contact occurred. Both males and females gave a brief display of head-bobbing as they first established themselves in a sunning position.

Captive female J56883 (SV: 33.9mm) laid two soft-shelled, oval-shaped eggs on 18 November 1992 (± 2 days). The eggs became desiccated and required rehydrating before any measurements could be taken. Egg length ranged from 7.52-7.54mm egg width from 3.85-3.95mm.

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